

Ashland Elementary School Net Zero Project

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AES Net Zero Project Overview

- Three Phase Project designed to eliminate the need for external energy to heat, cool, and light the Ashland Elementary School
 - Phase 1: Building Envelope
 - Retrofit the existing building to reduce thermal losses and air leakage
 - Phase 2: Electrify Heating and Cooling
 - Replace existing fossil fuel based “heat only” system with heat pumps that provide both heating and cooling more efficiently
 - Add solar array to offset additional energy required for heat pumps
 - Phase 3: Add battery storage and intelligent control system
 - Add battery storage for collecting excess energy generated during peak solar hours and store it for use during nights and cloudy days
 - Add intelligent control system to manage the energy of the facility and “learn” when to heat, cool, and store energy for optimal performance

Note: Only Phase 1 has been funded at this time from Senator Shaheen via a Congressional Spending Grant in the amount of \$1.35 Million.



AES Net Zero Project Overview

- Project Details

- Phase 1 has been funded by Senator Shaheen via a Congressional Directed Spending grant of \$1.35M in May of 2024.
 - No matching funds from local school budget required.
- Each Phase is designed to “stand alone” and provide substantial benefits if no further funding is provided.
- Engineering design is scheduled to occur in the fall and winter of 2024-25. RPQ’s for construction are scheduled to occur in the Spring of 2025
- Project team consists of veteran building scientists from the State of NH with extensive experience implementing similar projects in other schools.

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AES Net Zero Project Benefits

- The elimination of energy costs to heat, cool, and light the school building will significantly reduce the cost to operate the building(s) and thereby reducing the local tax burden.
- The creation of an enhanced learning environment for students consisting of superior thermal comfort and sufficient clean fresh air to promote student health and optimize cognitive behavior.
- A highly resilient school building can be utilized by the town as an emergency shelter in the case of a major electrical grid outage.
- The project will extend the life of the AES building by an estimated 30 years.
- The elimination of carbon-based heating and cooling fuels sources, thereby reducing the impact on global warming.
- An example of how the elimination of fossil fuels and dependence on offsite energy sources can be a “win-win” for residents, students, and taxpayers that can be replicated by every small town in NH and the US.

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